National Measurement Office

UK/0126/0136

MI-006

EC type-examination certificate UK/0126/0136

Issued by:

The National Measurement Office
Notified Body Number 0126

In accordance with the requirements of the Measuring Instruments (Automatic Catchweighers) Regulations 2006 (SI 2006/1257) and the Measuring Instruments (Non-Prescribed Instruments) Regulations 2006 (SI 2006/1270) which implement, in the United Kingdom, Council Directive 2004/22/EC, this EC type-examination certificate has been issued to:

Digi Europe Ltd
Digi House
Rookwood Way
Haverhill
Suffolk, CB9 8DG
United Kingdom

in respect of an automatic catchweighing instrument designated the HI-700 TR, and having the following characteristics:

Maximum capacity (Max)	≤ 1500 g
Minimum capacity (Min)	≥ 50 g
Scale interval (e =)	≥ 1 g
Accuracy class	Y(a) and XIII(1)

The necessary data (principal characteristics, alterations, securing, functioning etc) for identification purposes and conditions (when applicable) are set out in the descriptive annex to this certificate.

Issue Date: **13 November 2012**
Valid Until: **12 November 2022**
Reference No: **TS0101/0016**

Signatory: **P R Dixon**
for **Chief Executive**

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UKAS PRODUCT CERTIFICATION 0135

BIS Department for Business Innovation & Skills

Descriptive Annex

1 INTRODUCTION

This pattern of an automatic catchweigher, designated the HI-700 TR, operates as an automatic weight or weight/price labeller (Category Y) and as an automatic checkweigher (category X).

The instrument comprises a self-indicating and price-computing weighing machine with associated mechanical handling facilities, tray sealing and thermal label printer. It is designed to weigh packs dynamically, at a constant rate of operation.

Pricing, pack and labelling information is stored in files called PLUs selectable by the operator for the commodity being processed. The transaction data is automatically printed on the top sealing films which are then used to seal the packs.

The instrument provides indications of:

- price per unit weight from £0.01 to £9999.99 per kg by £0.01 intervals
- price-to-pay from £0.01 to £9999.99 by £0.01 intervals (rounded to the nearest 1p, with 0.5p rounded up)

2 FUNCTIONAL DESCRIPTION

2.1 Mechanical

2.1.1 The HI-700 TR comprises a weigher, tray sealing system and thermal label printer (Figure 1). The weigher is mounted on single fabricated floor standing stainless steel frame on adjustable stainless steel feet.

2.1.2 On the frame are mounted the scale conveyor and any additional in-feed and out-feed conveyors, any number may be used. Various conveyor sizes may also be used. In-feed guides may be fitted which are adjustable. Photocells are used for pack detection..

2.1.3 The control cabinet is mounted in the base of the frame below the scale conveyor, and houses the electronics and electrical control elements of the instrument. The control and display unit consists of a colour LCD touch screen (Figure 2), and may be mounted on the main frame or remotely if clearly visible by the user.

2.1.4 The weighing system comprises a scale conveyor mounted on a load cell. Packs will be automatically transported on to and off the scale conveyor using a bespoke chain conveyor, powered and driven independently of the instrument. The operating speed of the conveyor is fixed by the manufacturer with a maximum speed of 32 m/min.

2.1.5 The weight and price data determined and calculated by the HI-700 TR is transmitted via the Ethernet connection to a remote thermal printer mounted inside the tray sealing machine. The transaction data is printed on the top sealing films which are then used to seal the packs.

The Instrument may be configured for the chain conveyor to operate with either a left to right flow direction or a right to left flow direction. Other transport systems may be used

2.1.6 Load cell

The load cell is an HBM PW15, capacity as per section 3.1.

2.2 Electrical

The HI-700 TR weigher comprises the following:

- LCD display type TFT G150XG01 15.(350CD/M2)
- Digi Europe A/D converter type DSP A/D conversion PCB
- TDK Lambda power supply unit type LS75 and UPS backup type Pico UPS-100
- Commel type LV-67H main board

2.3 Devices

The instrument is provided with the following devices:

- Initial zero-setting device (≤ 4 % of Max)
- Semi-automatic zero-setting device (≤ 4 % of Max)
- Automatic zero-setting after time interval (≤ 15 min)
- Zero-tracking device
- Preset tare device
- Semi-automatic tare device (subtractive)
- Zero indication
- Calibration not accessible to user
- Price computation
- PLUs

3 TECHNICAL DATA

3.1 The HI-700 TR has the following technical characteristics:

Maximum capacity (Max)	≤ 1500 g
Scale interval (e)	≥ 1 g
Minimum capacity (Min)	≥ 50 g or 20 e (whichever is higher) (Class Y) ≥ 50 g (Class X)
Tare (T)	≤ - 50% Max
Accuracy class	Y(a) and XIII(1)
Max operating rate	Determined at initial verification
Max conveyor speed	≤ 32 m/min
Load cell model	HBM PW15
Load cell capacity	15 kg
Power supply	220 - 250 Vac – 50/60 Hz single phase
Pneumatic pressure	4-6 bars
Climatic environment	0 to 30 °C Non-condensing (closed)
Electromagnetic environments	E1 and E2

3.2 Documentation and drawings

TA-HI-700TR-GA-1-0	HI-700 TR General arrangement
IHI-07005.4	DSC ADC PCB assembly
000-026-14	Digi 700 name plate
TA-HI-700TR-GA-8-0	Location of rating/serial plate
TA-HI-700TR-GA-2-0 and 7	Sealing of A/D assembly & load cell in control box
HI-700TRUM-04	HI-700 User Manual (Issue 1)
HI-700TRSM-01	HI-700 Service Manual (Issue 1)
TA-HI-700TR-GA-9-0	HI-700TR Control Box Layout

3.3 Software

3.3.1 The software version number is 2.xx.xx.xxxx which is displayed during the power-up sequence of the instrument. The legal metrological code is contained within a dll file, HI700.dll. The dll file is protected by a checksum which is also displayed during the power-up sequence. Any modification in the dll file will result in a change in the checksum value and an error being detected. Access to the Windows operating system is prevented by password protection.

3.3.2 In addition to the weight and weight-price labelling modes of operation, the instrument is provided with non-weighed items (fixed price and fixed weight) and average weight modes of operation. The mode of operation is set in the products' PLU, only available at supervisor level.

3.3.3 The parameters (nominal weight and tolerance limits) used by the average weight mode are calculated by the system and cannot be modified. An average weight label contains the nominal weight with the associated units of measurement, the 'e' symbol, and a fixed price. Any pack that falls outside of the average weight limits is not labelled (i.e. rejected).

4 PERIPHERAL DEVICES AND INTERFACES

4.1 Interfaces

The instrument may have the following interfaces:

- USB
- Ethernet

4.2 Peripheral devices

The instrument may be connected to any peripheral device that has been issued with a test certificate or parts certificate by a Notified Body responsible for Annex B (MI-006) under Directive 2004/22/EC in any Member State and bears the CE marking of conformity to the relevant directives; or

A peripheral device without a test certificate may be connected under the following conditions:

- it bears the CE marking for conformity to the EMC Directive;
- it is not capable of transmitting any data or instruction into the weighing instrument, other than to release a printout, checking for correct data transmission or validation;
- it prints weighing results and other data as received from the weighing instrument without any modification or further processing; and
- it complies with the applicable requirements of Paragraph 8.1 of Annex I.

5 APPROVAL CONDITIONS

The certificate is issued subject to the following conditions:

5.1 Legends and inscriptions

The instrument bears the following legends:

'CE' marking
Supplementary metrology marking
Notified body identification number
Accuracy class
Serial number
Type designation
Manufacturers mark or name
Certificate number
Power supply
Pneumatic pressure

5.2 Printing (weigh/weigh-price labeller)

Editing of the weight and price data printed on to the sealing film is performed via the Digi label format software , its access is restricted to Manager or Supervisor levels. The labels must bear the weight, unit price and price to pay (when applicable), with associated units. Currency units must be in accordance with the country of use.

When tare or preset tare values are printed, they must be identified as such, and net and/or gross weights should be clearly identified when printed with a tare value. Net weights do not require such identification when the tare value is not printed.

Printing below Min is not allowed.

5.3 The instrument shall be fitted with a level indicator or be permanently installed.

6 LOCATION OF SEALS AND VERIFICATION MARKS

6.1 The 'CE' marking, supplementary metrology marking and certificate number are located at the rear of the control cabinet (Figures 3 and 4). The CE mark shall be impossible to remove without damaging it. The data plate shall be impossible to remove without it being destroyed.

6.2 The markings and inscriptions shall fulfil the requirements of Paragraph 9 of Annex I of the Directive 2004/22/EC.

6.3 Access to metrological settings is secured by a switch on the A/D board. Access to the switch and to the EPROMs on the A/D board is protected by a metallic cover secured by a tamper-evident seal (Figure 5).

6.4 Access to the static calibration facility is password protected. The instrument increments a calibration value (audit count number) each time it is re-calibrated. The value is recorded on a tamper evident label on the outside of the metal case protecting the A/D board. The current audit count number can be displayed via the About key in the Main Menu screen. Details of the secure metrological parameters can be displayed via the "Audit Query" programme in the Windows operating screen.

6.5 The load cell connection shall be secured as shown in Figure 6.

7 ALTERNATIVES

There are currently no authorised alternatives.

8 ILLUSTRATIONS

Figure 1 HI-700 TR
Figure 2 Operation touch screen display
Figure 3 Rating plate location
Figure 4 Rating plate
Figure 5 A/D board cover and sealing
Figure 6 Load cell sealing

9 CERTIFICATE HISTORY

ISSUE NO.	DATE	DESCRIPTION
UK/0126/0136	13 November 2012	Type examination certificate first issued.

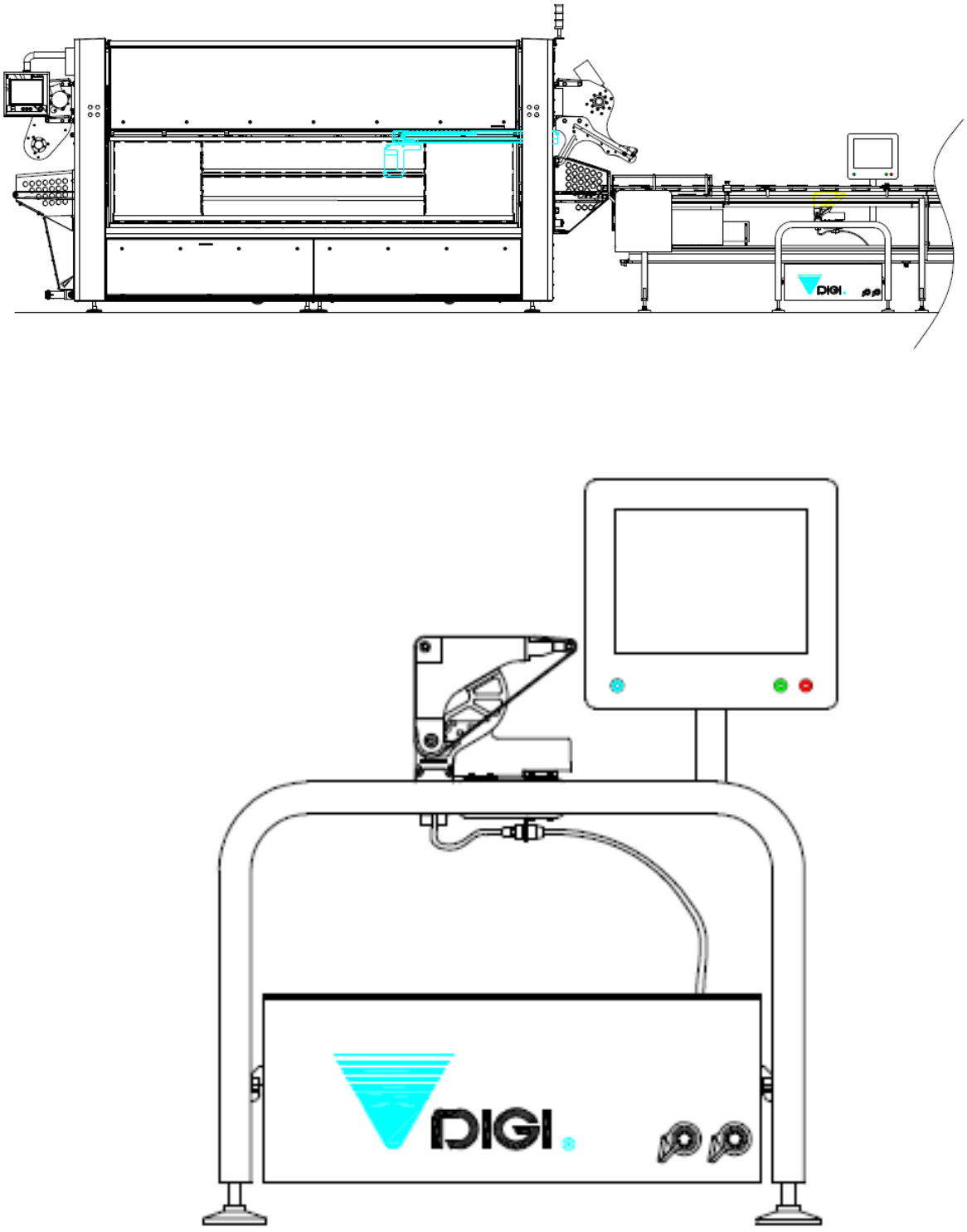

Figure 1 HI-700 TR

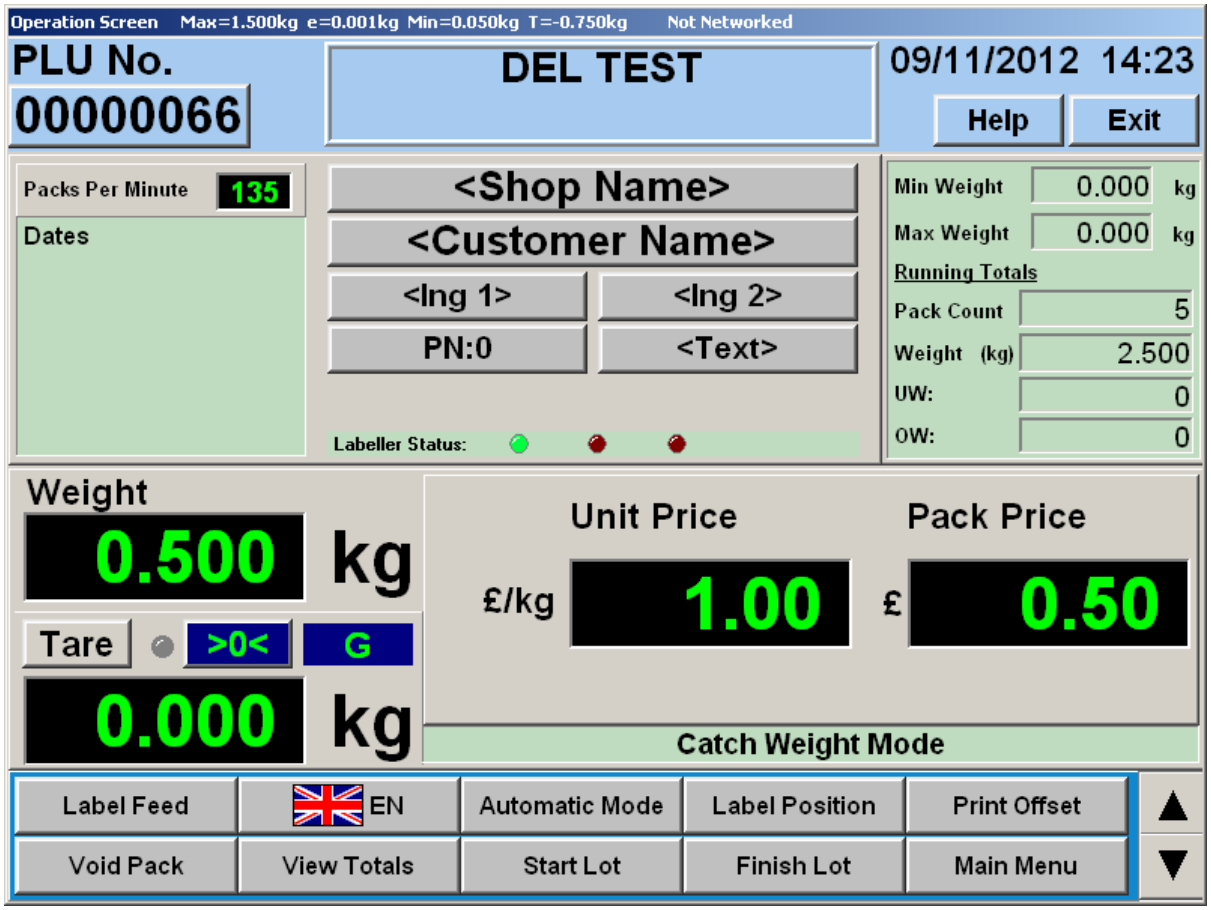

Figure 2 Operation touch screen display

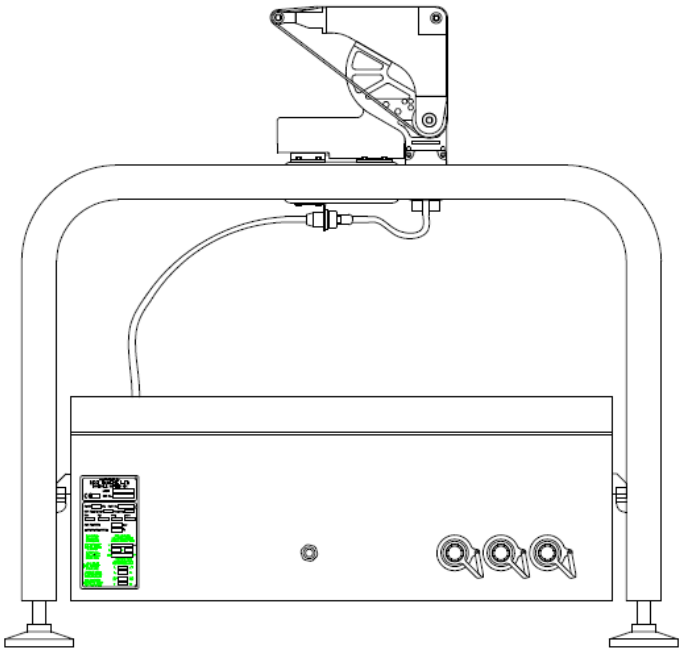

Figure 3 Rating plate location

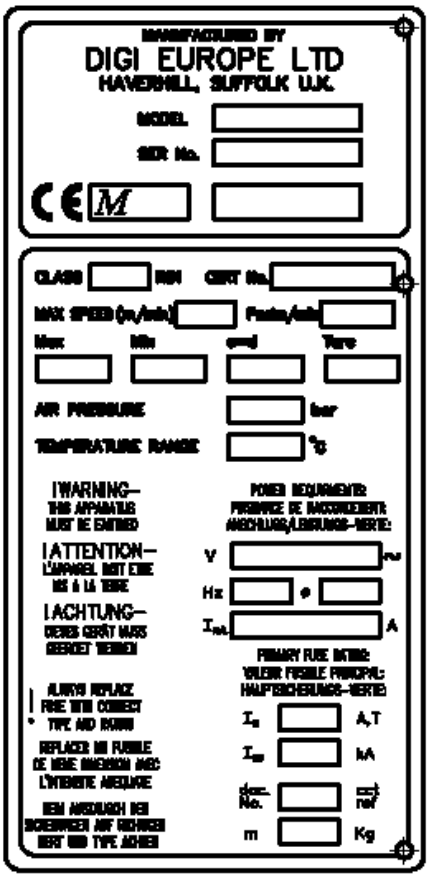

Figure 4 Rating plate

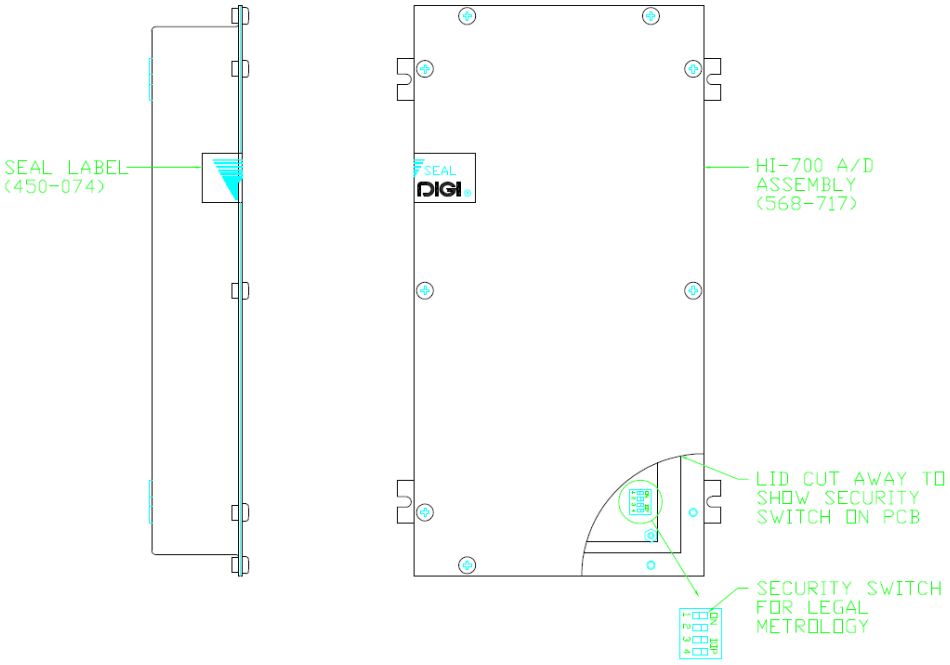

Figure 5 A/D board cover and sealing

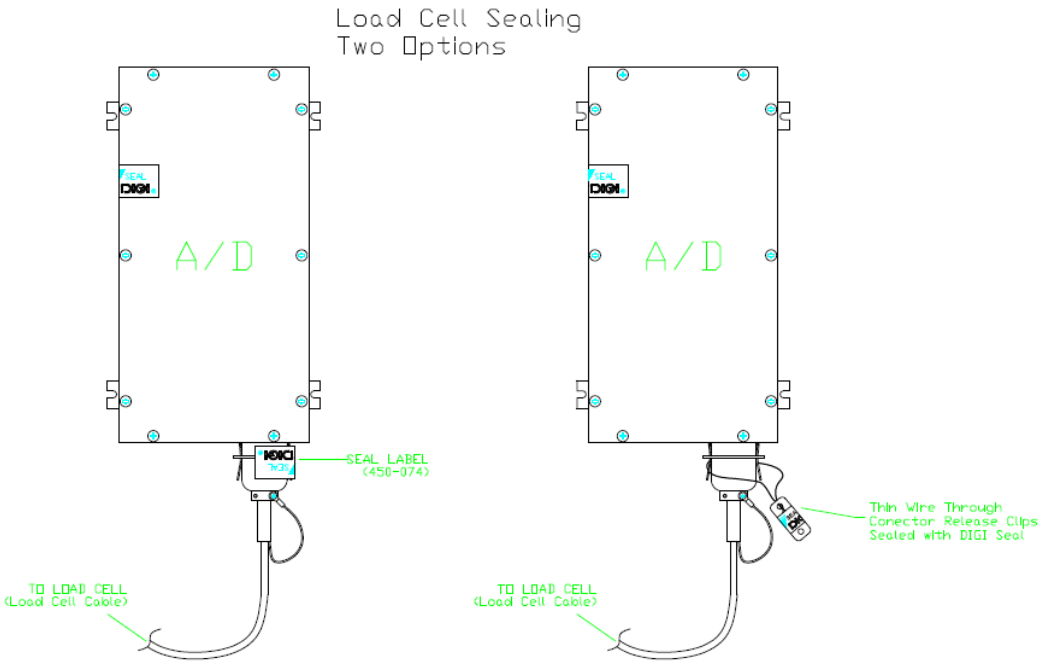

Figure 6 Load cell sealing

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